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Patient Surge Management During a Pandemic

Toolkit for Hospital and Health System Pharmacy

ashp.org/covid-19

Photo by Jeff Rhode/Holy Name Medical Center

INTRODUCTION

COVID-19 entered the world stage in December 2019, quickly spread to the United States in January 2020, and was declared a global pandemic on March 11.[1] As the nation grappled with the response to this growing pandemic, by the end of March 2020 cases were identified in all 50 U.S. states, the District of Columbia, and all inhabited U.S. territories except American Samoa.[2] Hot spots around the country were seeing hospital populations become 100% COVID-19 with ICU bed requirements doubling and tripling. Simultaneously, hospitals across the country were watching the COVID-19 positive patient cases grow in new hot spots and in clusters in many communities. Additionally, hospitals prepared by stopping elective procedures converting patient care areas and building out surge facilities and hospitals preparing for expected patient volumes and the necessary isolation areas.[3]

This unprecedented time saw tremendous tenacity, ingenuity, and resilience of healthcare workers across our nation. Incredible sharing of information occurred across all healthcare sectors as hospitals, cities, and states grappled with the shock wave of patients entering the healthcare system as the federal government worked to enable its disaster management resources. State leaders enacted emergency orders from governors resulting in the most massive social and economic impact the United States has seen in over 100 years.

ASHP and health system pharmacy responded in lockstep with the communities hit the earliest and hardest to coordinate lessons learned and state and federal level advocacy. This resulted in numerous regulatory and accreditation relief efforts to allow frontline healthcare workers to meet the huge demands for drugs and PPE while managing a workforce that required many methods to mitigate exposure and adjust to the severe clinical and medication needs of COVID-19 patients.

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1 World Health Organization; Rolling Updates on Coronavirus Disease (COVID-19); https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen (Accessed May 14, 2020)

2 Wikipedia; Timeline of the COVID-19 pandemic in the United States; https://en.wikipedia.org/wiki/Timeline_of_the_COVID-19_pandemic_in_the_United_States (Accessed May 14, 2020)

3 American Hospital Association; Hospitals and Health Systems Face Unprecedented Financial Pressures Due to COVID-19; https://www.aha.org/guidesreports/2020-05-05-hospitals-and-health-systems-face-unprecedented-financial-pressures-due (Accessed May 14, 2020)

Key components of the response to COVID-19 were the tremendous professional unity and sharing of experiences and lessons learned as organizations, pharmacy leaders, and ASHP state affiliates fought for resources and worked to build patient care capacity.

Establishing patient surge areas were core to this effort and took on many different models ranging from

1. expansion of ICU bed capacity within a hospital

2. building tent facilities (either as an extension of the hospital or stand-alone)

3. converting medical office buildings and other spaces

4. city, state, or federal surge facilities (both in partnerships or run by external agencies).

Each one of these models creating surge patient care areas presented unique challenges and lessons learned that will hopefully never be needed again. As with all disaster planning and now pandemic planning, we must capture lessons learned so we can continuously improve our preparation and focus future efforts on closing the gap in response times and stability of infrastructure.

This ASHP Patient Surge Management During a Pandemic - Toolkit for Hospital and Health System Pharmacy provides a compilation of ASHP tools and resources created in response to COVID-19 as well as the many lessons learned from pharmacy leaders as they shared their experiences in surge management.

The ASHP Patient Surge Management During a Pandemic - Toolkit for Hospital and Health System Pharmacy (the "ToolKit") provides a compilation of ASHP tools and resources created in response to COVID-19 as well as the many lessons learned from pharmacy leaders as they shared their experiences in surge management. The information contained in this Toolkit is subject to the professional judgment and interpretation of the practitioner. ASHP provides this information to help practitioners better understand current approaches related to COVID-19 treatment. ASHP has made reasonable efforts to ensure the accuracy and appropriateness of the information presented. However, any reader of this information is advised that ASHP is not responsible for the continued currency of the information, for any errors or omissions, and/or for any consequences arising from the use of the information contained in this Toolkit. Any reader of this document is cautioned that ASHP makes no representation, guarantee, or warranty, express or implied, as to the accuracy and appropriateness of the information contained in this Toolkit and will bear no responsibility or liability for the results or consequences of its use.

Photo by Jeff Rhode/Holy Name Medical Center

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OVERARCHING LESSONS LEARNED

PRE- AND POST-EXECUTIVE EMERGENCY ORDERS

1. **Anticipate event impact** and ensure pharmacy is directly engaged with the various incident command centers at local facility, system level, city, and state.

2. Ensure pharmacy's **needs and capabilities are communicated** with hospital leadership in order to enable accurate information sharing in any local or state emergency operations synchronization meetings. Having a common operating picture of the area's needs and resources is essential in allocating patient flow and providing resources.

3. **Establish organizational chain of command** and ensure pharmacy leadership is included so expectations are clearly laid out for what hospital pharmacy is responsible for and can provide consultation for.

4. **Establish a pharmacy-based command center structure** including routine "in-person" meetings and multi-media communication channels for pharmacy teams. Decisions will need to be made multiple times a day as new information is acquired and patient volumes change.

5. **Identify a pharmacy leader (pharmacist-in-charge) early** with planning of surge facility to lead pharmacy operations and necessary communication.

6. **Advocate for necessary enabling regulations and establish a routine with ASHP state affiliate** including elected leaders, clinical, and operational leadership from membership. Board of Pharmacy and the National Association of Boards of Pharmacy (NAPB) engagement must be immediate and organized among pharmacy leaders and ASHP state affiliates to quickly address needed changes and concerted requests for Governor emergency executive orders. Include ASHP staff on calls.

7. Proactively develop **plans for pharmacy service line and services** that may be reduced, paused, or relocated.

8. Ensure **support requests are clear and detailed** in listing capabilities needed in order to reduce the likelihood of misunderstanding in matching with potential resources allocated, assigned, or coordinated through FEMA.

PATIENT POPULATION DRUG UTILIZATION NEEDS
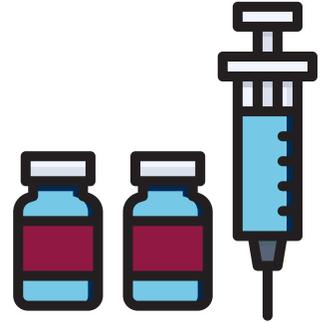
1. Patient Populations

A. Determine which patient populations will be managed in the surge spaces and facilities and assess drug and clinical pharmacy services necessary. Acuity and patient classification will drive decisions (e.g. inpatient, long-term care, or as temporary housing).

B. Anticipate it may not be possible to have dedicated pandemic infected patient facilities due to volumes, ICU bed capacity, presentation of patients in EDs, and inability to transfer patients.

C. Incorporate home care into pharmacy planning, especially if patient may be appropriately managed at home due to illness or injury is not severe enough to warrant hospital care, or because, given scarce resources, inpatient treatment may be considered futile or wasteful.

D. Establish planning for patient populations that include hospice care, homeless, and patients unable to return to primary domicile location.

E. Initiate committees to develop crisis standards of care and policies for activation of altered standards of care, taking into account ethical considerations, balancing individual and communal interests, suspension of existing legal requirements, and liability and other protections for healthcare workers and volunteers.

2. Data and Analytics

A. Organizations need to ensure they have capabilities to account for medications throughout the hospital and organization. The ability to micro-manage inventories through real-time dashboard is critical and at minimum should be done for identified essential drug formulary, anticipating both natural disaster situations and pandemics.

B. Consider dedicated resources to manage and oversee the drug and supply resources.

C. Be prepared to include and share drug utilization dashboard with organization's command center, and if one is not established because an emergency has not been officially declared, be proactive and provide in anticipation of pending scenarios.

D. Implement processes to project what patient populations need to be anticipated and which patient populations will be removed from routine patient care areas to accommodate for the scenarios; this will allow more accurate analytic modeling for drug utilization projections.

3. Drug Utilization and Projections

A. Establish projections for multiple volume scenarios immediately and weigh the risk-benefit of establishing inventories for worst case scenarios (e.g., disaster medicine vs. medical humanitarian planning approach).

B. Review current laws and regulations that will permit the ability to onload and offload drug and supply inventories quickly as scenarios change. COVID-19 demonstrated there are existing regulations that need to be clarified with local boards of pharmacy, but also required federal level guidance to ensure drugs could be managed across health systems to react to changing drug utilization scenarios.

C. Sterile compounding volumes that vastly exceed existing space and preparation areas need to be anticipated. Planning for alternate sites and continuous production may be necessary, including staffing needs and management of personnel fatigue.

D. Stand up necessary interprofessional committees and develop meeting and communication procedures, anticipating clinical decisions will be fast and fluid based on drug availability, emerging evidence, research protocols, and case studies.

E. Review policies and procedures for obtaining informed consent when treatment options include medications with emerging evidence and or case studies, as well as considerations for documentation for treatments that are not selected.

F. If a medication utilization committee does not exist for managing drug decisions in short supply and/or emerging uses for existing and experimental drugs, ensure there are procedures in place to 'stand up' such committees(s) to assist in drug utilization choices and projection modeling.

G. Establish ground rules up front regarding capability and capacity of surge site, including anticipated lengths of stay (e.g., 5 to 7 days). Clearly identify admission criteria to mitigate risk and is commensurate with staff and facility capabilities (e.g., mild/moderate med/surg acuity COVID-19 positive cases; care segregation for homeless COVID-19 patients with mild/moderate disease; no patients requiring IV infusion pumps, no mechanical ventilator support).

H. Determine emergency response capabilities and procedures (e.g., cardiopulmonary resuscitation, RSI meds); identify dedicated location for resuscitation room outfitted with a defibrillator and crash cart.

I. For basic load planning, consistent with acuity of patients anticipated at surge facility, analyze dispensation data from EHR and automated dispensing cabinets for med/surg acuity patients (e.g., if a health system analyzes data from community hospitals within system providing med/surg support) to get an estimate of the types of and quantities of medications needed for basic load planning.

J. Anticipate the need for specific management and monitoring of expenses associated with the event as well as impact on 340B requirements. Work with assumption that in a disaster or pandemic, executive emergency orders may be in place and there will be external funding for hospitals that will require accurate cost accounting.

PHARMACY WORKFORCE MANAGEMENT

1. Executive Orders

A. An immediate assessment of exemptions and relief for allowing necessary workforce to be available must be done in order to initiate advocacy if it will not meet staffing projections.

B. Determine what travel restrictions will be in place and ensure all staff have necessary documents.

2. Risk Reduction and General Staffing Strategies

A. Develop a process where staffing models can be quickly developed to react to various scenarios and communicate to staff early in process.

B. Issues to consider are restrictions on how much staff can be onsite, staff that may not want to come on site, need for staff at surge facilities, staff to execute the build-out of surge spaces and facilities, staff impacted by family needs, staff with health conditions restricting ability to work in needed areas, and staff restricted from coming to work (e.g. infected) or become sick.

C. Immediately assess staffing resources including recent retirees, past employees, and staff from facilities that may be less impacted by a pandemic.

D. Determine how pharmacy staff will be tested to ensure ability to continue working and frequency of testing in the event different standards need to be adopted based on assessment of risk and possible exposure, including quarantine procedures and ability to work while in quarantine.

E. Determine how organization will manage volunteers and develop tasks that can be managed by a volunteer work pool.

F. Establish procedures for how pharmacy staff will work within designated isolation areas and policies on how PPE will be managed.

G. Practice proper infection prevention practices such as wearing surgical masks at all times; badge in to work in controlled access area, and when to wear full PPE in patient care areas (gowns, face shield, N95 mask, gloves). Ensure staff receives doffing/donning PPE training.

H. Ensure well-being and resilience of staff such as breaks every 3 to 4 hours; staff lounge (food, drinks, snacks) for rest and recuperation.

I. Stand up teams (e.g., cross-leveling of staff, volunteer pharmacy staff) and infrastructure for remote order entry and review capability to support 24/7 surge hospital operations, both the hospital and surge site.

3. Technology and Patient Information

A. Develop plan on information technology and electronic health care record access including the assessment of secure access and rules for managing patient information from remote locations.

B. Develop modeling for technology needed for managing drug supply in surge areas and new facilities that may be established. Share projections with technology vendors early in process and weigh risk:benefit of obtaining needed equipment early.

C. Discuss with technology partners that ability to move equipment between facilities if needed and any contractual issues that need to be addressed.

D. Determine where the use of technology and/or EHR will not be available or accessible. This will require the use of medication carts, paper-based documentation tools, paper-based medical records, and associated policy and procedures.

FACILITY SURGE MODELS

1. Facility Owned (Within Existing Hospital) Surge Management

A. Licenses Pharmacy

    i. Existing pharmacy and DEA licenses will cover needs.

B. Licenses Workforce

    i. Understand the rules of executive orders and how this will apply to (a) obtaining additional workforce and (b) utilizing existing workforce if they are located across state lines.

    ii. Establish training needs and any restrictions that may exist for staff utilized under executive order or volunteers.

C. Drug Supply

    i. Develop a standing inventory that can stand up a surge unit immediately.

    ii. Before, during, and after events, ensure pharmacy purchasing personnel are involved in logistical planning and execution in order to reduce unnecessary purchasing based on possibly inaccurate needs or outdated standards of care.

D. Drug Storage

    i. Assess the various locations surge management may extend to and take inventory of possible carts, cabinets, and technology (ex. ADCs) that can be utilized to support expansion.

    ii.   Determine drug access procedures immediately, anticipating healthcare worker needs to be reassigned quickly and often throughout the crisis.

E.   Technology and Electronic Health Record

    i.   Develop a standard formulary for floor stock and ADCs that can be quickly pre-loaded and uploaded into new-start patient care areas. Consider assessing the first 72 hours of drug utilization for initial patients along with standard inventory for similar patient care population.

    ii.   Establish IT support for remote pharmacist support immediately including VPN security and number of personal devices that can be distributed to key staff.

F.   Partnerships

    i.   Proactively meet with business partners, wholesalers, and manufacturers and share analytics and establish routine communication strategy.

    ii.   Proactively engage with local and state governments, local/regional health systems, and healthcare non-profit organizations/professional associations, either directly or through established incident command structure.

2. Facility Owned (On-campus Extension of Hospital) Surge Management

A.   Licenses Pharmacy

    i.   Determine if existing pharmacy and DEA licenses will cover needs; if facility is on campus, the likelihood is existing licenses will only be needed.

B.   Licenses Workforce

    i.   Understand the rules of executive orders and how this will apply to (a) obtaining additional workforce and (b) utilizing existing workforce if they are located across state lines.

    ii.   Establish training needs and any restrictions that may exist for staff utilized under executive order or volunteers.

C.   Drug Supply

    i.   Develop a standing inventory that can stand up a surge unit immediately.

    ii.   Before, during, and after events, ensure pharmacy purchasing personnel are involved in logistical planning and execution in order to reduce unnecessary purchasing based on possibly inaccurate needs or outdated standards of care.

D. Drug Storage

    i. Assess the various locations surge management may extend to and take inventory of possible carts, cabinets, and technology (ex. ADCs) that can be utilized to support expansion

    ii. Determine drug access procedures immediately anticipating health care worker needs to be reassigned quickly and often throughout the crisis.

E. Technology and EHR

    i. Develop a standard formulary for floor stock and ADCs that can be quickly pre-loaded and uploaded into new patient care areas. Consider assessing the first 72 hours of drug utilization for initial patients along with standard inventory for similar patient care population.

    ii. Establish IT support for remote pharmacist support immediately including VPN security and number of personal devices that can be distributed to key staff.

F. Partnerships

    i. Proactively meet with business partners, wholesalers, and manufacturers and share analytics and establish routine communication strategy.

    ii. Proactively engage with local and state governments, local/regional health-systems, and healthcare non-profit organizations/professional associations, either directly or through established incident command structure.

3. Facility Owned (Off-campus Separate Hospital) Surge Management

A. Licenses Pharmacy

    i. Determine if existing pharmacy and DEA licenses will cover needs; during COVID-19 it was determined if the facility was under the ownership of hospital, the existing DEA license could be used. The board of pharmacy should be contacted early in process to determine what stipulations they will require.

B. Licenses Workforce

    i. Understand the rules of executive orders and how this will apply to (a) obtaining additional workforce and (b) utilizing existing workforce if they are located across state lines.

    ii. Establish training needs and any restrictions that may exist for staff utilized under executive order or volunteers.

    iii. Seek DEA registration waivers for out-of-state providers (e.g., military providers, volunteers) to prescribe controlled substances for patients being cared for in surge facility.

iv. Contact board of pharmacy (or department of public health in some states) to request waivers of regulation enforcement to allow federal pharmacists, certified pharmacy technicians, and other out-of-state pharmacy workforce volunteers to practice in surge facility.

v. If a separate licensed facility, determine pharmacist-in-charge early in process. Separate chain of command from hospital for operational and administrative supports, communication and coordination through surge facility Incident Command Structure.

C. Drug Supply

i. Develop a standing inventory that can stand up a surge hospital immediately.

ii. Contact suppliers early to ensure they have necessary "ship to" address and determine if there will be any other information needs.

iii. Before, during, and after events, ensure pharmacy purchasing personnel are involved in logistical planning and execution in order to reduce unnecessary purchasing based on possibly inaccurate needs or outdated standards of care.

iv. Make decisions on whether organization will desire to have drug shipped to primary hospital and delivered by hospital staff to surge facility.

v. Consider policy to require that institutions sending patients to a surge facility dispense a 3 to 5 day "bridge supply" of medications to patients

vi. Assemble initial basic formulary load for initial outfitting of surge facility: approximately 100 medications (e.g., emergency resuscitation medications, controlled substances, comfort medications [e.g., acetaminophen, ibuprofen, saline nasal spray], respiratory inhalers, antibiotics).

vii. If a satellite of hospital pharmacy, set up new wholesaler account to segregate purchasing for financial accounting.

viii. If capability of surge facility supports IV administration of medications, then engage in contract discussions with 503A and/or 503B suppliers.

ix. Consider pharmaceutical cache from SNS as supplemental but do not factor into planning as distribution from SNS may be not available to all hospitals.

D. Drug Storage

i. Assess the various locations surge management may extend to and take inventory of possible carts, cabinets, and technology (ex. ADCs) that can be utilized to support expansion.

ii. Determine drug access procedures immediately, anticipating healthcare worker needs to be reassigned to different patient care areas quickly and often throughout the crisis.

iii. Medical grade stand-alone refrigerators and freezers are the most highly recommended in the designated pharmacy space. Additionally, consideration should be given for a patient specific refrigerator. Assure capability for continuous temperature monitoring process exists.

iv. For infection prevention purposes and for the preservation of PPE, pharmacy, after performing safety checks, should contact nursing station(s) to pick up "patient own medication(s)" received from community pharmacies and securely store (e.g., lockable filing cabinet, ADC, medication cart) in the patient care area(s).

v. Identify rooms for secure storage for patient belongings (e.g., ticket sale office in convention center).

vi. If no ADCs, use med carts with a locking med drawer.

E. Technology and EHR

i. Develop a standard formulary for floor stock and ADCs that can be quickly pre-loaded and uploaded into new-start patient care areas. Consider assessing the first 72 hours of drug utilization for initial patients along with standard inventory for similar patient care population.

ii. Establish IT support for remote pharmacist support immediately, including VPN security and number of personal devices that can be distributed to key staff.

iii. Strive to be wired and fully capable for ADCs, EHRs, communications (e.g., phone/secure texting, Vocera, hand-held radios) to function normally as if in a fixed healthcare facility.

iv. Enter all documentation and orders entered in EHR.

v. Make use of collaborative software (e.g., MS Teams) used to track progress of projects, segregating access, and for stand up of pharmacy operations at the surge facility.

F. Partnerships

i. Proactively meet with business partners, wholesalers, and manufacturers and share analytics and establish routine communication strategy.

ii. Proactively engage with local and state governments, local/regional health systems, and healthcare non-profit organizations/professional associations, either directly or through established incident command structure.

4. Government Facility Surge Management (Hospital Partnership)

A. Licenses Pharmacy

i. Determine if existing pharmacy and DEA licenses will cover needs; during COVID-19 it was determined if the facility was under the ownership of hospital, the existing DEA license could be used. The board of pharmacy should be contacted early in process to determine what stipulations they will require.

B. Licenses Workforce

    i. Understand the rules of executive orders and how this will apply to (a) obtaining additional workforce and (b) utilizing existing workforce if they are located across state lines.

    ii. Determine if hospital will be required to have hospital staff providing patient care and who will have access to EHR.

    iii. Determine who will have the pharmacist-in-charge accountabilities.

C. Drug Supply

    i. Develop a standing inventory that can stand up a surge unit immediately.

    ii. Before, during, and after events, ensure pharmacy purchasing personnel are involved in logistical planning and execution in order to reduce unnecessary purchasing based on possibly inaccurate needs or outdated standards of care.

    iii. Contact suppliers early to ensure they have necessary "ship to" address and determine if there will be any other information needs.

    iv. Make decisions on whether organization will desire to have drug shipped to primary hospital and delivered by hospital staff to surge facility if drugs are to be supplied by hospital.

    v. Consider contracting with community pharmacies and establish a delivery cadence (e.g., twice daily) to supply patients with necessary medications, or determine if an onsite location will be established, consistent with scope of services provided at surge facilities (e.g., mild/moderate med-surg COVID-19 patients).

    vi. Consider relying on community pharmacies to source majority of medications provided. Prepare to handle community pharmacy dispensed prescriptions as "patient own medications."

    vii. When prescriptions (e-prescribing or paper) are ordered for surge patients, have surge hospital pharmacy staff verify patient insurance coverage, chain of custody, right meds/ right patients; "patient own meds," nursing dispensed meds out of filing cabinet to limit pharmacy to nursing "touch" and to preserve PPE.

    viii. Determine source of supply for addiction medicine (e.g., may need to require patients bring with them their methadone supply dispensed from a servicing methadone treatment center).

D. Drug Storage

    i. Assess the various locations surge management may extend to and take inventory of possible carts, cabinets, and technology (ex. ADCs) that can be utilized to support expansion.

    ii.   Engage immediately with ADC partner to determine contractual and supply requirements.

    iii.   Determine drug access procedures immediately, anticipating healthcare worker needs to be reassigned quickly and often throughout the crisis.

E.   Technology and EHR

    i.   Develop a standard formulary for floor stock and ADCs for that can be quickly pre-loaded and uploaded into new-start patient care areas. Consider assessing the first 72 hours of drug utilization for initial patients along with standard inventory for similar patient care population.

    ii.   Establish IT support for remote pharmacist support immediately, including VPN security and number of personal devices that can be distributed to key staff.

F.   Partnerships

    i.   Proactively meet with business partners, wholesalers, and manufacturers and share analytics and establish routine communication strategy.

    ii.   Determine if the organization will provide drugs for patient care or if a third party (e.g. chain pharmacy) will provide drugs.

    iii.   As early as possible in the setup of support relationships, establish with partners what method(s) of documentation and communication of care will be utilized to reduce risks associated with transitions in care. It is unlikely that there will be compatible or interoperable systems being used between entities.

    iv.   Proactively engage with local and state governments, local/regional health-systems, and healthcare non-profit organizations/professional associations, either directly or through established incident command structure.

5. Government Facility Surge Management (Externally Managed)

A.   Licenses Pharmacy

    i.   If facility is managed and/or owned by a third party, whether it be government agency or independent party, they will require their own hospital, facility, and DEA license.

    ii.   Determine immediately if facility is being set up as a "physician clinic" or "hospital" as it will determine what needs and transaction policies will be required in the event they rely on hospital for drug supplies (e.g. management of DEA 222's and physician office supplies).

B.   Licenses Workforce

    i.   Determine if hospital will be required to have hospital staff providing patient care and who will have access to EHR.

ii. Determine who will have the pharmacist-in-charge accountabilities.

C. Drug Supply

i. Drug supply will be responsibility of third party but may require outpatient dispensing of medications to bridge patient as they are transferred to the facility.

ii. Determine what dispensing processes need to be established within hospital to facilitate the discharging of patients (e.g. how many days of supply and what drugs need to be sent with patients and associated regulatory restrictions).

D. Drug Storage

i. Drug storage will be responsibility of third party but be prepared to provide consultation on management of process.

E. Technology and EHR

i. NA

F. Partnerships

i. Proactively meet with third party to determine rules of engagement.

ii. Determine if the organization will provide drugs for patient care for ongoing care to proactively understand third party's risk points to ensure continuity of care. This can impact ability to discharge patients to facility.

iii. As early as possible in the setup of support relationships, establish with partners what method(s) of documentation and communication of care will be utilized to reduce risks associated with transitions in care. It is unlikely that there will be compatible or interoperable systems being used between entities.

iv. Proactively engage with local and state governments, local/regional health-systems, and healthcare non-profit organizations/professional associations, either directly or through established incident command structure.

6. Miscellaneous Models to Support Surge

A. It may become necessary to establish off-site drug storage, compounding, and dispensing facilities to support the demands of the crisis and optimize the use of pharmacy workforce.

B. Engage with Board of Pharmacy and DEA early to determine what exemptions are necessary in order to operate facilities.

C. Determine security measures, access to, and oversight of these facilities.

D. Determine and establish courier systems to move drugs throughout health system and/or between hospitals and other patient care locations.

CONSIDERATIONS FOR PHARMACY SERVICE LINES

Managing patient surges of patients will often result in other extreme measures in making changes to "standard operating" pharmacy patient care services. The scope of this document will not address the many operational, site of care, patient management logistics, and continuity of care issues to put into place to maintain patient services and ensure healthcare worker safety. Additionally, as seen with COVID-19, there will be need to adjust to declining patient volumes and site of care for patients in managing travel restrictions and exposure risk mitigation.

Example of some lessons learned include:

» Inpatient Patient Services redistribution of workload, changes in clinical rounding and patient education, and assessment of skill sets needed to meet patient surge characteristics.

» Ambulatory Clinic Services implementation on virtual consultations and adherence check-ups, consideration of curbside point of care testing, and determining required in-person necessary patient care visits.

» Outpatient/Retail Services decisions on how to move prescription to mail order, utilize curbside pick-up, how to reduce impact of loss of prescriptions, and reducing risk exposure of staff to frequency of patient/customer engagement points.

» Specialty and Infusion Services anticipation of increased demands in services as medical facility based care is reduced.

ASHP **COVID-19 RESOURCES**

ASHP PLANNING AND PREPARATION CONSIDERATIONS FOR ALTERNATE CARE SITE/FIELD HOSPITAL OPERATIONS

This resource provides concepts and actions for pharmacy leaders to incorporate into their emergency preparedness response.

Download available at **ashp.org/covid-19.**

ASHP PANDEMIC CHECKLIST

This tool is intended to assist in COVID-19 pandemic planning efforts in departments of pharmacy and to foster pharmacist involvement in preparedness at the institutional and community levels. This tool is not intended to cover all pandemic planning, but is intended to be useful in identifying gaps and vulnerabilities in a pharmacy department's readiness for the COVID-19 pandemic.

Download available at **ashp.org/covid-19.**

ASHP'S FIELD/SURGE HOSPITAL AND ICU BED EXPANSION RESPONSES TO COVID-19
(APRIL 1, 2020)

Working with members, ASHP collected information from 21 health systems on the steps they are taking to prepare for field/surge hospitals and ICU bed expansion. This information collates information pertaining to modeling for field/surge hospitals, establishing number of new ICU beds, staffing, automation and EHRs, as well as advice and considerations. This information was collected between March 25 – March 30, 2020 from practice sites across the country including New York, Washington, and more.

Download available at **ashp.org/covid-19.**
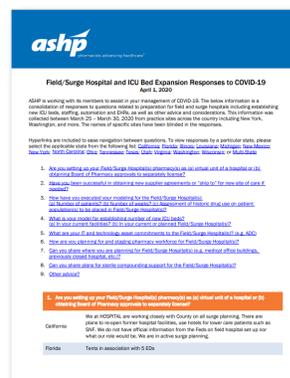
COVID -19 DRUG UTILIZATION SAMPLE CALCULATORS

These example predictive calculators have been used by a few hospitals to estimate select medication use needs for the care of COVID-19 patients. Since there is a wide variation in planning factors, based on the capability and capacity of a facility (e.g., ICU bed expansion vs. low-acuity patients in a field hospital), the estimator tools will need to be adapted for individual institutions. The calculators can supplement planning efforts by generating numbers by category of medications to determine current burn rate (e.g., per patient needs), projected stock levels/days on hand required, and/or retrospective amounts of medications utilized.

Download at **ashp.org/covid-19.**

» COVID DRUG CALCULATOR 1 [EXCEL]

» COVID DRUG CALCULATOR 2 [EXCEL]

» COVID DRUG CALCULATOR 3 [EXCEL]

» COVID DRUG CALCULATOR 4 [EXCEL]

For additional resources, visit **ashp.org/covid-19**

FEMA AND ASPR RESOURCES

» ASPR - ALTERNATE CARE SITE (ACS) FUNDING SUMMARY TIP SHEET

» ASPR - COVID-19 HEALTHCARE PLANNING CHECKLIST [PDF]

» ASPR - FEDERAL ALTERNATE CARE SITE (ACS) TOOLKIT, 2ND ED. [PDF]

» ASPR - HOSPITAL DISASTER PHARMACY CALCULATOR [EXCEL]

» ASPR PUBLIC HEALTH EMERGENCY

» ASPR -TRACIE (HEALTHCARE EMERGENCY PREPAREDNESS INFORMATION GATEWAY)

» FEMA PLANNING CONSIDERATIONS FOR ORGANIZATIONS IN RECONSTITUTING
OPERATIONS DURING THE COVID-19 PANDEMIC [PDF]

For additional resources, visit **ashp.org/covid-19**

ASHP **COVID-19 PRODUCTS**

STAY UPDATED

ASHP Official Podcast

A daily discussion on COVID-19 aimed to provide evidence-based information and tools for pharmacists. Subscribe today at **ashp.org/podcast.**

ASHP Webinars

Register for free webinars providing perspective and insight from first-hand experiences during the COVID-19 pandemic. Register at **elearning.ashp.org/COVID-19**

ASHP PUBLICATIONS

AHFS Clinical Drug Information®

AHFS CDI offers fast, mobile access to comprehensive, evidence-based drug information including the most up-to-date information on drugs used in the treatment and care of patients with COVID-19. Our online tool gives you real-time access to ASHP's drug shortages, off-label uses, and comprehensive, interactive treatment and drug therapy solutions. Available at **ahfsdruginformation.com.**

Extended Stability for Parenteral Drugs, Sixth Edition
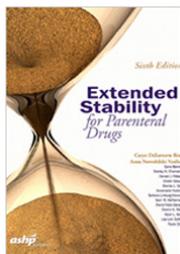
Get the support you need to safely extend dating of parenteral drugs beyond the usual 24-hour limit—enabling optimal patient administration schedules at alternate infusion sites. Available at **store.ashp.org.**

ASHP'S Interactive Handbook On Injectable Drugs

ASHP's mobile and online tool allows you to simultaneously check an unlimited number of medications for two-drug combination compatibility. ASHP's Interactive Handbook on Injectable Drugs™ includes regular updates, FDA MedWatch notices, drug shortages information, wall-chart custom views of compatibility information, and other helpful features for treating patients.Available at **ahfsdruginformation.com.**

Compounding Sterile Preparations: Fourth Edition

ASHP's quintessential and authoritative sterile compounding reference every pharmacist needs. Order at **store.ashp.org.**

eLEARNING

## Pharmacy Competency Assessment Center (PCAC)

Devote your time to delivering patient care rather than developing training.

ASHP's completely updated and expanded competency management subscription includes 54 online competencies and initial skills assessments to manage and monitor competency completion among pharmacist and pharmacy technician staff. Developed by a team of more than 90 experts from around the country, PCAC is regularly updated as new standards and skills are introduced into practice. Institutional pricing is available. Visit **ashp.org/pcac.**

Compounding Sterile Preparations Competency Library (CSPCL)
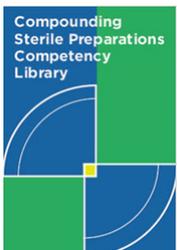
Evaluate compounding personnel knowledge regarding compounding sterile preparations, and maintain a year-to-year record of your ongoing sterile compounding competency assessment program. This library was developed with an emphasis on the areas outlined in section 2 of USP <797> regarding mandatory annual competencies. The current catalog includes four full-length courses covering sterile compounding practice requirements. Institutional pricing is available. Access at **ashp.org/cspcl.**

Critical Care Pharmacy Review and Recertification Activities

More than 55,000 pharmacists have relied on ASHP's Critical Care Review and Recertification materials to enhance their education and skills using our high-level and scenerio-based programs during the COVID-19 pandemic. View a list of our current programs at ASHP has opened access to our Critical Care Pharmacy Specialty Review Course, Practice Exam, and Core Therapeutic Modules package making it available to all pharmacists at no cost through May 31. Please use discount code: COVID-19 at checkout. Available at **ashpcertifications.org.**

Emergency Medicine Certificate

Earn an ASHP Professional Certificate with our self-guided, online program that is designed for participants to increase the foundational knowledge and skills necessary to provide optimal patient care in the emergency department. The course presents key roles and responsibilities of pharmacists practicing in emergency medicine and further concentrates on the application of evidence-based pharmacologic and non-pharmacologic therapies for disease states frequently encountered in this practice setting. Available at **ashp.org/certificates.**

SPECIAL ACKNOWLEDGMENT

ASHP would like to acknowledge its members and the heroic work of pharmacy teams providing care in hospitals, health systems, and communities across the nations. We are grateful for your dedication to your patients and for your willingness to share information to aid in the collective response to the COVID-19 pandemic. The continuous collaboration, even in the most trying and tiring times, demonstrate the commitment of our profession and the critical role of pharmacy in delivering healthcare to all patients.

It is with great sadness that we also recognize and honor all the healthcare workers and other essential personnel who have lost their lives to this unparalleled global health crisis. As we reflect back on the pandemic we will always remember the sacrifices made on behalf of patients and public safety and will celebrate the determination, passion, and selflessness that guide our ongoing efforts to preserve life and bring comfort to our patients, peers, families, and communities.